What is claimed is:

1. A semiconductor device comprising:

a first semiconductor chip with elements formed over a semiconductor substrate;

a second semiconductor chip with elements formed over a semiconductor substrate;

a wiring substrate including a main surface and a back surface on the side opposite to the main surface,

the second semiconductor chip mounted over the main surface of the wiring substrate,

the first semiconductor chip stacked over the second semiconductor chip; and

an electrode of a fixed potential disposed over the first semiconductor chip on the side opposed to the second semiconductor chip,

wherein the electrode of the fixed potential is electrically connected to the semiconductor substrate of the first semiconductor chip and to the wiring substrate.

2. A semiconductor device according to claim 1, wherein the second semiconductor chip is flip-connected to the wiring substrate.

3. A semiconductor device according to claim 2, wherein the electrode of the fixed potential is disposed over the second semiconductor chip on the side opposite to the first semiconductor chip.

4. A semiconductor device according to claim 3, wherein the electrode of the fixed potential and the wiring substrate are connected with each other through an electrically conductive wire.

5. A semiconductor device according to claim 4, wherein the second semiconductor chip includes a projecting portion projecting from the first semiconductor chip in a direction parallel to the main surface of the wiring substrate, the electrode of the fixed potential is disposed over the projecting portion of the second semiconductor chip, and the electrode of the fixed potential over the projecting portion and the wiring substrate are connected with each other through the electrically conductive wire.

6. A semiconductor device according to claim 3, wherein a gold plating film is formed over a surface of the electrode of the fixed potential.

7. A semiconductor device according to claim 4, wherein the electrically conductive wire is a gold wire.

8. A semiconductor device according to claim 1, further comprising:

amplifier circuit for amplifying an input signal in threes stages, of which first- and second-stage amplifier circuits are incorporated in the first semiconductor chip and a third-stage amplifier circuit is incorporated in the second semiconductor chip.

9. A semiconductor device according to claim 1, wherein the ratio in projected area of each of main surfaces of the first and second semiconductor chips to the main surface of the wiring substrate is in the range of 0.9 to 1.1.

10. A semiconductor device comprising:

a first semiconductor chip with elements formed over a semiconductor substrate;

second semiconductor chip with elements formed over a semiconductor substrate;

a wiring substrate including a main surface and a back surface on the side opposite to the main surface,

the second conductor chip mounted face up over the main surface of the wiring substrate,

the first semiconductor chip stacked over the second semiconductor chip; and

an electrode of a fixed potential disposed over the first semiconductor chip on the side opposed to the second semiconductor chip,

wherein the electrode of the fixed potential is electrically connected to the semiconductor substrate of the first semiconductor chip and to the wiring substrate.

11. A semiconductor device according to claim 10, wherein the second semiconductor chip and the wiring substrate are connected with each other through an electrically conductive wire.

12. A semiconductor device according to claim 10, wherein a spacer is disposed between the first and second semiconductor chips.

13. A semiconductor device according to claim 12, wherein the electrode of the fixed potential is disposed over the spacer on the side opposed to the first semiconductor chip.